Appendix A.1 Chocolate Tempering Protocol (adapted from Revolution2 Manual)

Prior to tempering:

1) Chop chocolate into medium size chunks.
2) Weigh out seed chocolate (~ 8% of total tempering sample). Set aside.
   NOTE: Do not exceed m*aximum capacity for tempering, 1.5 lbs (680.38g).*
3) Prime bowl by taking a piece of chocolate and rub it along the inside of the bowl. Do the same for the plastic scraper.
4) Set up temper machine according manual instructions.
5) Select type of chocolate sample to temper (white, milk, dark).

During tempering:

6) Place chopped chocolate behind baffle in order to melt. Add chocolate in portions. Do not overload the bowl.
7) If desired, manually adjust temperature according to chocolate type.
   NOTE: Best melting temperature for dark chocolate is 113ºF.
8) Once machine starts beeping/flashing temper button, the chocolate is completely melted. Select the Temper #2 method. Gradually add seed chocolate behind baffle and allow seed chocolate to melt.
9) Once the machine starts beeping/flashing 'seed out' button, hold down button. Then, take out remainder seed chocolate that did not melt. Set aside.
10) Allow machine to continue the tempering process. At this time, prepare molds. Put molds into an oven set at 32ºC. Clamp plastic piping bag onto foil ring stand.
11) When the machine beeps a final 3rd time, the chocolate is fully tempered; push reset button (R) to stop bowl from spinning.
12) Take out mold from oven and put on tray.

Molding chocolate:

13) Using a metal scrapper, scrape melted tempered chocolate into piping bag from bowl.
14) Remove piping bag from ring stand, seal it, and cut off tip on bottom to allow chocolate to flow out the bottom of bag in a steady stream.
15) Take bag, applying pressure from the top, and squeeze chocolate into well. The tip should touch the bottom of the well first and then slowly pull upward to completely fill each individual well. Repeat this procedure in all mold wells. *NOTE: Do not place hands on outer surface of bag when piping because it will add additional heat. Hold at base and tip of bag. You must mold quickly.*
16) After liquid chocolate has been piped into wells, take dipping tool and mix chocolate in individual wells.
17) Scrape off excess chocolate from mold using metal spatula until chocolate fills each well completely.
18) Moderately tap molds on bench surface to release air bubbles.
19) Place molded chocolate in ambient control temperature room. Allow chocolate to set overnight.
20) Clean equipment with warm water and rinse with deionized water.

Appendix B.1 Informed consent for sensory panel

INFORMED CONSENT FORM FOR SENSORY EVALUATION PANELISTS TO PARTICIPATE IN: Descriptive Analysis for Chocolates Study

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You are invited to participate in a study involving chocolate sensory evaluation. The overall objective of this study is to develop a descriptive list of terms for the chocolates to be tested. These chocolates will be evaluated using a sensory evaluation method known as descriptive analysis. You will be trained to identify, name and classify a range of flavor, taste and texture characteristics of these samples. You will be asked to taste and expectorate the samples, and to rate the samples for intensity of each characteristic. There are minimal risks or discomforts expected as a result of your participation. If you have prior experience of any allergic reactions to chocolates, you should not participate in this study. If you experience allergic reactions any time during the study, you should discontinue the study. The chocolates do not contain nuts. There is no direct benefit to you for participating in this study. You are free to withdraw from the study at any time and for any reason. We also reserve the rights to terminate your participation of the study at any time and for any reason.

The study will be conducted at Bevier Hall Room # 376 (Sensory laboratory). You will participate in 4 weeks of training sessions (approximately 4 to 5 hours a week, 1 hour per day) and 1 week of analysis (1 hour per day). Participation of this study is voluntary, and you will not be compensated monetarily for your participation.

Your performance and data in this research is confidential. Responses are coded to be confidential and any publications or presentation of the results of the research will only include information about group performance. Names or other identifiable information will not be disclosed or published.

You are encouraged to ask any questions that you might have about this study whether before, during, or after your participation. However, answers which could influence the outcome of the study will be deferred to the end of the experiment. Questions can be addressed to Dr. Nicki Engeseth (217-244-6788, engeseth@illinois.edu). If you have any questions about the rights of research subjects, please feel free to contact the IRB Office (217-333-2670, irb@illinois.edu).

I understand the above information and voluntarily consent to participate in the study described above. I have been given a copy of this consent form.

Signature Date

Appendix B.2 Sensory panel questionnaire.

Panelist # _____

Chocolate Panel Questionnaire

Personal Info

1. Sex

☐Male ☐Female

2. Age

☐<20 ☐21-30 ☐31-40 ☐41-50 ☐51-60 ☐>61

Health

Do you have any of the following?

☐Diabetes ☐Hypoglycemia ☐Hypertension ☐Other Medical Problems

1. Do you have any food allergies? If so, please list.

_____

2. Do you take any medications, which may affect your senses, especially taste and smell?

_____

3. Are you currently on a restricted diet? If so, please explain.

_____

Eating Habits

1. How often do you consume chocolate per week?

☐0 ☐1-3 ☐4-6 ☐>7

2. Which do you prefer?

☐Dark Chocolate ☐Milk Chocolate ☐White Chocolate ☐No Preference

Appendix B.3 Sample ballot for descriptive analysis panel[a]

Chocolate Descriptive Panel
RATING SAMPLES

Sample #: ____**209**_____

Texture Attributes

Hardness (Carrot)

0 1 2 3 4 5 6 7 **8** 9 10 11 12 13 14 15

Grainy (Ground Cinnamon)

0 1 2 3 4 5 6 7 **8** 9 10 11 12 13 14 15

Crumbly (Feta Cheese)

0 1 2 3 4 5 6 7 8 **9** 10 11 12 13 14 15

Cohesive (Frosting)

0 1 2 3 4 5 6 7 8 **9** 10 11 12 13 14 15

Creamy (Pudding)

0 1 2 3 4 5 6 7 8 9 **10** 11 12 13 14 15

Tooth Packing (Animal Cracker)

0 1 2 3 4 5 6 7 8 **9** 10 11 12 13 14 15

Fatty Mouth Coating (Diluted Cream)

0 1 2 3 4 5 6 7 8 **9** 10 11 12 13 14 15

Dry Mouth feel (Cocoa Powder)

0 1 2 3 4 5 6 7 8 9 10 **11** 12 13 14 15

[a]Anchored reference ratings are **bolded** on scale and associated references are in parentheses.

Appendix B.4 Sample Melting Time Intensity Test scorecard during training weeks.

Melting Time Intensity Test

DIRECTIONS: Place sample on top of tongue in your mouth. Press sample to the roof of your mouth and record how long it takes to completely melt the sample. Record the final melting time and comment.

Sample # __843_____ Melting Time: _____Comment:_____

Sample # __114_____ Melting Time: _____Comment:_____

Sample # ___836__ Melting Time: _____Comment:_____

Sample # __589_____ Melting Time: _____Comment:_____

Sample # ___672____ Melting Time: _____Comment:_____

Sample # __423___ Melting Time: _____Comment:_____

Sample # _110_____ Melting Time: _____Comment:_____

Appendix C.1 Chocolate Food Science Education brochure (front and back) for recruitment purposes.

Program Dates: June 15 -July 2, 2009.

The Chocolate Idea

Have you ever wondered how chocolate is made? What are the important ingredients? Why does chocolate sometimes turn a grayish color? Why is it so popular in health studies? How do you create a new chocolate product?

Ongoing research at the University of Illinois can help you answer those questions!! You 'll fall into the world of chocolate and recognize the challenges, opportunities, excitement, and rewards food science research has to offer...

This Program Will Focus On:

- Experimental learning in a lab setting.
- Introducing the concept of lipid polymorph changes in chocolate
- Using scientific techniques to solve applied problems in food science
- Learning about exciting new technologies incorporated in our research
- Conducting experiments, doing background research, analyzing data, and presenting your findings

CHOCOLATE LAB

Through these workshops, we will explore the many facets of food science, including food chemistry, food processing, food microbiology, food product development, nanotechnology, sensory science, and nutrition.

Example Workshops

1) History
First Uses: Cultivation and Ancient Civilizations
2) World View
Chocolate Around The World: Fair Trade
3) Types of Chocolate
White, Milk, Dark: Taste the Difference
4) Production
From the Tree to the Bar: Tempering & Molding
5) Health Benefits
Chocolate Health: Conducting a Blood Pressure Health Study
6) Products
Food Product Development: Innovative Chocolate Creations
7) Sensory Science
Sensory Panel: Conducting a Descriptive Analysis
8) Illinois Chocolate Research
Fat Bloom, Emulsifiers, and Instrumental Analysis.
Plus, making, tasting, and enjoying your own samples!

...Did Someone Say Chocolate?

YES, chocolate!!!

This summer the Food Science and Human Nutrition Department at the University of Illinois will be hosting six high school students to participate in a chocolate program with graduate students.

The various angles of food science taught at the University will reveal the mysteries behind the science of chocolate. During the program, you'll have the opportunity to be immersed in the campus, work in a laboratory, and find out what it is like to do research on a fun topic like chocolate!

Chocolate program conducted by Illinois graduate student Melissa Tisoncik and overseen by Professor Nicki Engeseth. This program has been made possible by a grant from the USDA.

Program from June 15-July 2, 2009 provided for six high school students. Costs covered by the program include:

-15 days of workshops at Illinois campus
-University of Illinois Housing
-University of Illinois Meals

Students will need to arrange their own transportation to and from the University .

Applications Due: March 2
Decisions Made By: March 23

For more information contact:
uiuc.chocolate@gmail.com

Interested in Food Science?

Food Science incorporates the study of the physical, microbiological, chemical and biochemical properties of food to ensure maximum safety and optimal quality for the everyday consumer.

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Food scientists focus on basic research, product development, quality control, processing, engineering, packaging, and technical sales of food.

This summer YOU could have the opportunity to learn about all aspects of food science. Apply for the Chocolate Education Summer Program at the University of Illinois -Urbana Champaign and you will learn the capstone concentrations of food science through the study of
~~~~~~~~

Appendix C.2 College of ACES Press Release for program (January 2009).

U of I Summer "Science of Chocolate" Internships Available to Teens

Source: Nicki Engeseth, (217) 244-6788, engeseth@illinois.edu

URBANA - Science-minded high-school students should consider applying for a 15-day summer internship at the University of Illinois, especially if they're interested in chocolate.

"Our goal is to introduce the students to many aspects of food science through the study of chocolate. We will teach them to monitor quality changes in chocolate and use scientific principles to investigate changes in chocolate during storage," said Nicki Engeseth, an associate professor of food chemistry in the U of I Department of Food Science and Human Nutrition.

Interns will tour the U of I Center for Microanalysis of Materials where U of I food scientists have used nanotechnology to analyze grain size, crystal structure, and roughness parameters of chocolate, all factors that studies have shown influence taste, texture, and the release of flavor compounds, the scientist said.

"The students will also learn about the history of chocolate, including fair-trade issues that are relevant today. We'll cover its production all the way from its beginning in the cacao pod to the final product, either milk, white, or dark chocolate, and talk about the differences between them," she said.

"Nutritionists and food scientists are also interested in the health benefits of chocolate," she said. "We will demonstrate a nutritional intervention study on the effects of consuming chocolate comparing students to illustrate how such studies are conducted and analyzed."

Engeseth's laboratory also contains tools for making chocolate, including conching, tempering, and molding machines. In the teaching laboratory, students will learn why chocolate behaves as it does during food preparation and compete in an Iron Chef competition.

Also planned are a field trip to a local chocolatier to learn how the experts mold some of their more fanciful and fun chocolate creations as well as participation in a sensory panel in which students will evaluate such qualities as flavor, mouth-feel, and graininess, record their impressions, and relate these to other instrumental analyses.

As part of the project, Engeseth and Melissa Tisoncik, a graduate student in her laboratory, will conduct a short workshop for high-school science teachers, giving them hands-on experience so they can bring some of the activities back to their own classrooms.

Six interns will be chosen to participate in the program. Housing and meals will be provided through support from a USDA CSREES-sponsored integrated grant proposal, but students will need to arrange their own transportation to and from the university, Engeseth said.

Interested students should apply by March 2, and a decision will be reached by March 23, according to Engeseth. For more information, interested students should contact Melissa Tisoncik at uiuc.chocolate@gmail.com.

Appendix C.3 2009 Chocolate Food Science Education Program application

ILLINOIS
UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN

Summer 2009 Chocolate Education Program Application

The application and all attachments should be filled out fully and submitted by **March 2, 2009**.
Please submit only one application, typed or neatly hand written.

I. Basic Information

Name (last, first, middle):_____
Home Address (street, city, state, zip code):
_____
_____
Home Phone:_____ Cell Phone:_____
Email:_____
High School Currently Attending: _____Current Grade:_____
What is your intended field of study for your future career? _____

II. Additional Information

A. **Grades**- Please attach a current high school transcript (required).

B. **Two Letters of Recommendation** (please enclose in separate sealed envelopes, with signature across the seal)-from either Science Teachers or Guidance Counselors, or both. These letters should include: student's academic record, ability to cooperate, character and personality, capacity for work, and involvement in extracurricular activities.

C. **Resume-**Please enclose a resume that includes all extracurricular activities, leadership positions, awards, work experience/internships, and any other notable credentials.

III. Essay (typed and enclosed with application)

The essay should address the following question:

Why should you be considered for this program?

IV. If there is anything else that should be considered when reviewing this application please indicate it in this section:

Signature:_____ Date:_____

Applications due **March 2, 2009**. Please send letters of recommendation, transcripts, resume, and application in ONE envelope together. Send to **Melissa Tisoncik, 208 Bevier Hall, 905 S.**

Goodwin Ave., Urbana IL 61801. Please contact Melissa Tisoncik at uiuc.chocolate@gmail.com with further questions.

Appendix C.4 Informed consent form for parents of program participants

INFORMED CONSENT FORM FOR PARENTS OF CHILDREN PARTICIPATING IN: Summer Chocolate Education Program at the University of Illinois

Your child has been selected and has accepted our invitation to join us for an exciting 2 ½ weeks of immersed education in the Summer Chocolate Program at the University of Illinois, conducted by Associate Professor Dr. Nicki Engeseth (Department Food Science & Human Nutrition) and her graduate students. The six selected high school students will be getting an introductory look into the Food Science and Human Nutrition Program through the study of chocolate. We are very excited and look forward to working with your child.

The program will include activities introducing your student to the University of Illinois, College of ACES and Department of Food Science & Human Nutrition (FSHN). Most activities will take place in FSHN and will include presentations on history, health benefits and production of chocolate as well as demonstrations into sensory evaluation studies and how to conduct human dietary intervention studies. Many facets of food science research will be highlighted.

Possible Risks. The risks associated with this workshop to program participants are not greater than those experienced in daily life. The students will be encouraged to sample foods as part of the process – thus, we have asked that you indicate in the space below any known food allergies.

Benefits. Your child will gain from this experience in many ways. Initially, this will be an exciting, fun, educational summer program. They will be exposed to life at the University of Illinois and will gain exposure to many faculty, staff and students in the University as well as gaining an appreciation for the breadth of programs offered in FSHN and also in the College of ACES. There will also be significant exposure to research in food science and the scientific principles that dictate food quality and consumer perception of foods.

Compensation/Costs associated with the workshop. For the duration of the program, your child will stay in a University Residence Hall. University meals, housing, and fifteen days of workshops will be provided for by a USDA-CSREES NRI competitive grant. The only cost you are responsible for is the travel to and from the University.

Confidentiality. The workshop will be well documented by our laboratory; the University may include your child in possible printed material. This could be printed onto a University affiliated website or brochures and possible educational publications. This material may include pictures of your child. Any information obtained during the Summer Chocolate Program will be kept strictly confidential and your child's name or any other close personal information will not be identified in any of these materials.

Rights and Responsibilities. Participation by your child is voluntary and they may withdraw from any of the activities, or the program itself if so desired, without any penalty to the child or without any compromise to future relationships with the University of Illinois. The University of Illinois does not provide medical or hospitalization insurance coverage for participants in this workshop, nor will the university will not provide compensation for any injury sustained during participation in this research activity, except as required by law.

Whom to Contact/Questions. If you have any questions pertaining to any information stated in this consent form or about the study, please feel free to contact:

Melissa Tisoncik	or	Nicki J. Engeseth, Ph.D.
Chocolate Program Coordinator		Associate Professor
MS Graduate Student		Dept. Food Sci & Human Nutr.
University of Illinois		University of Illinois
(217) 244-5760		(217) 244-6788
mtisonc2@illinois.edu		engeseth@illinois.edu

Cell phone numbers of the resident assistants who will be staying in the residence hall with the students will also be provided along with residence hall contact information in a separate document. If you have any questions regarding subject rights, please feel free to contact the Institutional Review Board office at (217) 333-2670 (irb@illinois.edu). You will be given a copy of this consent form.

Please return this note with your child when they arrive to participate in the summer program on June 15th. You will be given a second copy of this consent form for your records

Parental Consent. I have read and understand the above consent form and voluntarily agree that my child may participate in this study.

_____
(Print) Parent(s) Name(s)

_____ _____
Parent(s) Signature(s) Date

I do/do not (circle one) give permission for **photos** to be taken and published of my child _____ during the program described above.

_____ _____
Parent Signature Date

If there are any known **food allergies** your child has please indicate them below:

_____
_____

Appendix C.5 Informed assent form for program participants

INFORMED ASSENT FORM FOR STUDENTS PARTICIPATING IN: Summer Chocolate Education Program at the University of Illinois

You have accepted and been approved to join us for an exciting 2 ½ weeks of immersed education in the Summer Chocolate Program at the University of Illinois, conducted by Associate Professor Dr. Nicki Engeseth (Department of Food Science & Human Nutrition) and her graduate students. You and five other selected high school students will get an introductory look into the Food Science & Human Nutrition Program through the study of chocolate. We are very excited and look forward to working with you.

The program will include activities introducing you to the University of Illinois, College of ACES and Department of Food Science & Human Nutrition (FSHN). Most activities will take place in FSHN and will include presentations on history, health benefits and production of chocolate as well as demonstrations into sensory evaluation studies and how to conduct human dietary intervention studies. Many facets of food science research will be highlighted.

Possible Risks. The risks associated with this workshop to program participants are not greater than those experienced in daily life. You will be encouraged to sample foods as part of the process – thus, we have asked that you indicate in the space below any known food allergies.

Benefits. You will gain from this experience in many ways. Initially, this will be an exciting, fun, educational summer program. You will be exposed to life at the University of Illinois and will gain exposure to many faculty, staff and students in the University as well as gaining an appreciation for the breadth of programs offered in FSHN and also in the College of ACES. There will also be significant exposure to research in food science and the scientific principles that dictate food quality and consumer perception of foods.

Compensation/Costs associated with the workshop. For the duration of the program, you will stay in a University Residence Hall. University meals, housing, and fifteen days of workshops will be provided for by a USDA-CSREES NRI competitive grant. The only cost you are responsible for is the travel to and from the University.

Confidentiality. The workshop will be well documented by our laboratory; the University may include you in possible printed material. This could be printed onto a University affiliated website or brochures and possible educational publications. This material may include pictures of you. Any information obtained during the Summer Chocolate Program will be kept strictly confidential and your name or any other close personal information will not be identified in any of these materials.

Rights and Responsibilities. Your participation is voluntary and you may withdraw from any of the activities, or the program itself if so desired, without any penalty to yourself or without any compromise to future relationships with the University of Illinois. The University of Illinois does not provide medical or hospitalization insurance coverage for participants in this workshop, nor will the University provide compensation for any injury sustained during participation in this research activity, except as required by law.

Whom to Contact/Questions. If you have any questions pertaining to any information stated in this consent form or about the study, please feel free to contact:

Melissa Tisoncik
Chocolate Program Coordinator
MS Graduate Student
University of Illinois
(217) 244-5760
mtisonc2@illinois.edu

or

Nicki J. Engeseth, Ph.D.
Associate Professor
Dept. Food Sci & Human Nutr.
University of Illinois
(217) 244-6788
engeseth@illinois.edu

Cell phone numbers of the resident assistants who will be staying in the residence hall with you will also be provided along with residence hall contact information in a separate document. If you have any questions regarding subject rights, please feel free to contact the Institutional Review Board office at (217) 333-2670 (irb@illinois.edu). You will be given a copy of this consent form.

Please return this note when you arrive to participate in the summer program on June 15th. You will be given a second copy of this consent form for your records

Student Assent. I have read and understand the above consent form and voluntarily agree that I will participate in this study.

_____
(Print) Student(s) Name(s)

_____ _____
Student(s) Signature(s) Date

I do/do not (circle one) give permission for **photos** to be taken and published of myself during the program described above.

_____ _____
Student Signature Date

If there are any known **food allergies** you have please indicate them below:

_____
_____

Appendix C.6 An example 15 cm line scale used during the mock sensory study lesson

Chocolate Descriptive Panel
RATING SAMPLES

Sample: Dove Dark Chocolate Promise™

Texture Attributes

Hardness (Carrot, Parmesan Cheese)

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

Fracture/Cohesive (Parmesan Cheese, Mozzarella Cheese)

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

Chewiness (Rice Cake, Mozzarella Cheese)

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

Fatty Mouth Coating (Sweetened Condensed Milk)

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

Dry Mouthfeel (Tannin Solution)

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

Tooth Packing (Animal Cracker)

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

Appendix C.7 Pre-program questionnaire approved by Illinois Institutional Review Board (IRB) and used for program assessment

Summer Chocolate Program 2009 Questionnaire

We are excited to have you in our Summer Chocolate Program. In order to obtain feedback about our program we would greatly appreciate you taking time to fill out this questionnaire. Answering the following questions is completely voluntary. Your answers will be kept confidential and will not be subject to any judgments or consequences. Please answer the following questions as openly and as thorough as possible. This questionnaire will remain anonymous and is solely for feedback about the program.

1. How did you first hear about our Summer Chocolate Program?

2. What interested you the most about the program?

3. After reading the information packet, what activities do you think you will enjoy the most?

4. What do you think will be the least interesting part of the program for you?

5. How do you feel about living at the University of Illinois for 2 ½ weeks with other students with similar interests?

6. Is this the first time you have been away from home for more than a couple days without your family?

7. How supportive were your parents about your participation in this workshop?

8. Describe briefly what you have learned from your high school curriculum that you think will be applied in this program.

9. What do you hope to learn from your participation in the Summer Chocolate Program?

10. What do you think will be a challenge for you in this program? Why?

11. List the science classes you have had previously in high school or other important educational studies.

12. What areas are you currently most interested in for your future career or field of study?

13. Have you ever attended another educational summer program? If yes, please list subject and location.

14. What do you like most about science?

15. Have you worked in teams to conduct science experiments? If yes, what do you think were the biggest challenges? What was the best about working in a team environment?

16. What extracurricular activities are you involved in? Which ones are your favorites?

17. Are you considering applying to the University of Illinois for undergraduate education? If so, indicate what major, if known.

18. Were the materials in the information packet that was provided to you prior to the program useful? If not, please comment on those issues that you did not like or understand.

Food Science Oriented Questions:

19. Define *food science* in your own words.

20. What is cacao? Which country produces the largest amount of cacao per year?

21. What are the health benefits of consuming chocolate?

22. Explain the differences between white, milk, and dark chocolate.

23. If you were craving your favorite chocolate chip cookies, would you use the pictured chips to make your favorite recipe? Explain why or why not…

24. Does chocolate contain caffeine? If so, how much compared to coffee, soda, and tea?

25. What is an emulsifier? Which emulsifiers are used in chocolate?

26. What is your favorite chocolate recipe?

Thank you for your comments!

Appendix C.8 Post-program questionnaire approved by Illinois Institutional Review Board (IRB) and used for program assessment

Summer Chocolate Program 2009 Questionnaire

Thank you for participating in the Summer Chocolate Program!! It was a pleasure to have you here and we hope you are leaving with valuable information. In order to obtain feedback about our program we would greatly appreciate you taking time to fill out this questionnaire. Answering the following questions is completely voluntary. Your answers will be kept confidential and will not be subject to any judgments or consequences. Please answer the following questions as openly and

as thorough as possible. This questionnaire will remain anonymous and is solely for feedback about the program.

1. Describe your overall experience participating in the Summer Chocolate Education Program?
2. What did you like best about the program?
3. What did you like the least about the program?
4. What was your favorite lecture/topic covered in the Program? Why?
5. What was your **least** favorite lecture/topic? Why?
6. What educational trip did you like the best? What did you learn while on the trip?
7. Was there a topic presented that you would have liked to have covered in more detail? If so explain.
8. Did this program change your knowledge of/increase your interest in the field of food science? Explain.
9. How did you like living in the University residence hall? What did you like most about it? Least?
10. Were the Residence Assistants helpful answering questions and planning events? Explain.
11. Were there enough activities planned for you to participate in during the Program? Too many?
12. Did you enjoy the interaction, planning and working together with other peers in groups? Explain.
13. Which assignment given throughout the program did you enjoy the most? Which was least enjoyable to you? Explain.
14. What was the most challenging aspect of your participation in the Summer Chocolate Program? Explain.
15. After learning about the different fields within food science (food chemistry, food microbiology, nutrition, food processing and sensory analysis), which of these was most attractive to you? Would you have liked more information on any of these? Explain.

16. Was the laboratory work enjoyable for you?

17. If you could attend another educational summer program, what would be something of interest to you?

Food Science Oriented Questions:

18. Define Food Science in your own words.

19. What is fat bloom? What is sugar bloom?

20. Can you eat chocolate that has bloom on it? Explain.

21. What are the main ingredients in dark chocolate?

22. Name three instrumental analyses used to study the fat bloom on dark chocolate? Explain what each is useful for.

23. Who first discovered chocolate?

24. What are the health benefits of consuming dark chocolate and white chocolate?

25. What does the label "Fair Trade" chocolate mean?

26. Why do manufactures need to temper chocolate?

27. What is an emulsifier? What role does it play in chocolate quality?

28. Would you consider pursuing a career in food science? Explain.

29. What do you like most about science?

30. What do you think was most valuable to you as you leave this program?

Additional Comments/ Suggestions: (here we would appreciate any comments/suggestions you have that would help make the future Summer Chocolate Programs more enriching for high school students)

Thank you for your comments!
We hope you enjoyed yourself and had fun in the Chocolate Education Program!